STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT
P.O. BOX 621
HONOLULU, HAWAII 96809

STAFF SUBMITTAL

for the meeting of the
COMMISSION ON WATER RESOURCE MANAGEMENT

February 18, 2009
Honolulu, Hawaii

Application for Stream Channel Alteration Permit (SCAP.2034.3)
DOT Bridge Replacement across Kaipapau Stream, Hauula, Oahu
TMKs: (1) 5-4-011:004-0001 and 0002, 5-4-011:021, 5-4-018:001, 002 and 003

APPLICANT:

Mr. Glenn M. Yasui, Highways Administrator
State Department of Transportation
Highway Division
869 Punchbowl Street
Honolulu, HI 96813

LANDOWNERS:

Mervyn Kotake, 54-251 Kam Hwy, Apt. A (0001)
Natividad Guerrero, 54-251 Kam Hwy, Apt. B (0002)
Glenn Christensen, 54-022 Pipilani Pl., (021)
Mitch Afalava, 54-252 Kam Hwy, (001)
Nicholas Pao, Kaipapau and Kam Hwy, (002)
William Lindsey Jr., 54-260 Kam Hwy, (003)

SUMMARY OF REQUEST:

Application for a Stream Channel Alteration Permit (SCAP) for the State Department of Transportation's (DOT) bridge replacement across Kaipapau Stream, Hauula, Oahu, TMKs: (1) 5-4-011:004-0001 and 0002, 5-4-011:021, 5-4-018:001, 002 and 003.

LOCATION: See Exhibit 1.

BACKGROUND:

The Kaipapau Stream Bridge was constructed in 1932 and carries inbound and outbound traffic on Kamehameha Highway. The existing bridge is 82 feet long by 28.4 feet wide with 12-foot approach lanes and paved shoulders in both directions. The bridge is a historic structure, although it is not listed on the State Draft Historic Bridge Inventory and Evaluation, dated May 1996. The bridge structure has two 40-foot spans and is constructed of reinforced concrete with a wooden pedestrian walkway attached to the mauka (west) side of the bridge.

Parcels immediately surrounding the Kaipapau Stream Bridge are single family residential. The area surrounding the bridge is single family residential and commercial in character. Hauula Shopping Center, a retail strip mall with retail space and a parking lot, is located several blocks north of the site.

DESCRIPTION:

The purpose of this project is to replace and widen the existing Kaipapau Stream Bridge to meet all current Federal and State bridge and roadway standards. These include regulations for lane widths, pedestrian and bicycle facilities, and shoulders, seismic strength, guardrails, and the Americans with Disabilities Act.

The proposed work includes construction to increase the dimensions of the bridge to approximately 110 feet long by 57 feet wide. The widened portions of the bridge will be constructed of pre-stressed concrete planks with cast-in-place bridge decks with separate bikeway/pedestrian walkway on both sides of the bridge. Current standards for highway speed, loading, sight distances, guard railings, and other safety measures will be used in the design of the project.

The proposed design includes two 12-foot travel lanes plus two 8.5-foot shoulders, two 5-foot pedestrian walkway/bicycle lanes, reinforced guardrails and drainage features. The approach and guardrails will comply with the current standards of the State Department of Transportation. Rip-rap or concrete rubble masonry (CRM) will be installed on the banks of the stream to stabilize the embankment.

The new right-of-way will be 63.3 feet wide and will require the acquisition and demolition of one dwelling due to its close proximity to the project site. The project will also result in the temporary relocation of residents on three properties adjacent to the project site. The residents will be allowed to move back into their homes after construction has been completed.

Structures to be constructed within the stream channel include rip-rap or CRM to replace existing slope protection measures (abutment walls) directly under the bridge. Four five-foot diameter drilled shafts will be constructed within the stream channel to support the new bridge. To minimize disturbance to the stream bed, the center pier of the existing bridge will be removed by cutting it off at the stream bottom elevation, leaving the footing in place. A six-foot high concrete stream wall will also be built on the makai (west) side of the bridge, with the majority of the wall lying outside of the existing stream channel.

Excavation will occur along areas adjacent to the new abutment walls and stream wall necessary to construct the footings to ensure scour protection. During the construction of the four bridge piers, five-foot diameter shafts will be drilled into the stream bed. Excavation of the drilled shafts will be done by a drill rig that will either be stationed on the existing bridge or in the stream bank. Sheet piles or other diversion measures will be put in place to isolate the active work area from the stream. The material that is excavated from the stream channel will either be stockpiled at a designated material storage area, or loaded directly on to trucks for disposal at a county-approved disposal facility. No waste material will be placed in the stream channel or along side the stream banks.

During construction of the new bridge, stream flow will be diverted away from active work areas using sheet piles, sandbags or pipes. This is done to prevent pollutants (silt) from entering the stream and also to maintain stream flow to minimize impacts to aquatic organisms during construction. The temporary diversion measures will be designed to accommodate high stream flow from storm events.

Dewatering facilities will be governed under a National Pollutant Discharge Elimination System (NPDES) dewatering permit from the Department of Health (DOH) Clean Water Branch (CWB). All dewatering effluent will be treated (filtered) prior to discharging back into State waters. Construction storm water and hydro-testing discharges will also be covered under the NPDES permit.

Site-specific best management practices (BMPs) will address regional and special conditions outlined by the U.S. Army Corps of Engineers, (COE) and the DOH CWB per the permit requirements of Sections 401 and 404 of the Clean Water Act.

The project will be phased to maintain two traffic lanes at all times; therefore, instream work will be intermittent during the construction period. Sections of the new widened bridge will be built on the mauka (east) and makai sides of the existing bridge (Phases 1 & 2). The existing bridge will then be

demolished and the remainder of the new bridge constructed (Phase 3). The final phase includes construction of new jersey barriers, asphalt pavement, and realignment of travel lanes.

Temporary facilities will include diversion measures that may include sheet piling, sand bags or pipes (still to be determined by the project contractor), and areas for material stockpiling and staging.

The overall construction schedule is estimated to last about 16 months with intermittent in-stream activities; however, all in-stream work will be limited to the dry season.

ANALYSIS:

On May 14, 2004, two AECOS biologists conducted a reconnaissance survey of Kaipapau Stream at Kamehameha Highway to ascertain biological resources found around the Kamehameha Highway Bridge. The brief aquatic survey revealed a number of aquatic species including aholehole, 'ama'ama and the native *'o'opu naniha.* The estuarine environment is a gathering point for juvenile *'o'opu* that migrate upstream as they grow larger and the juvenile 'ama'ama and aholehole that migrate into the ocean as they grow.

On March 7, 2006, the Office of Hawaiian Affairs (OHA) recommended that the applicant consult with individuals from the area who were intimately involved in the cultural preservation of Koolauloa, complete a subsurface testing effort as part of an Archaeological Inventory Survey prior to earth-disturbing activities and stop work if any significant cultural deposits or human skeletal remains are encountered.

On July 6, 2006, the State Historic Preservation Office concluded that the proposed project will have no adverse effect with the condition that the bridge be photographed before demolition.

On February 2007, the Final Environmental Assessment (FEA) for the Kaipapau Stream Bridge Replacement determined that the project would not require an Environmental Impact Statement (EIS) and issued a finding of No Significant Impact (FONSI) for the project.

In October 2008, the State DOT submitted an application to the U.S. Army Corps of Engineers (COE) for Nationwide Permit (NWP) No. 14 for linear transportation projects and NWP No. 33 for temporary construction and access.

On January 15, 2009, OHA received the applicant's cultural assessment for the proposed project which OHA had requested because of the cultural resources contained in the area and OHA's need to assess the impacts of this project on them. OHA urged the applicant to use a firm permitted to conduct archaeological monitoring in the state and listed in the State Historic Preservation Division's website. In addition, OHA suggested that the Commission condition its permit upon the applicant doing so.

The U.S. Fish and Wildlife was unable to provide detailed comments on potential impacts of the proposed action on fish and wildlife resources due to its workload but did provide a list of BMPs to consider for this project.

The DOH Clean Water Branch (CWB) commented that it had not received applications for a Section 401 Water Quality Certification (WQC) and NPDES permits as of December 29, 2008.

The City and County of Honolulu Department of Planning and Permitting (DPP) made the following comments:

- The project is located in the Special Management Area (SMA), and on October 17, 2008, a SMA Permit for the Kaipapau Stream Bridge Replacement project was approved by the City Council.

- The project must obtain a Conditional Letter of Map Revision (CLOMR) prior to construction because the Final Environmental Assessment (FEA) did not indicate that the proposal would be able to comply with a "No-Rise' determination. The project must also obtain the concurrence of the Federal Emergency Management Agency (FEMA) and the City and County of Honolulu regarding the revised floodway boundaries and increased base flood elevations.
- The project may require a grading permit. If dewatering of the dredged material is required before disposal, then a stockpiling permit may also be required.
- A subdivision application must be submitted to address the additional right-of-way (ROW) acquisitions along the bridge.

The Division of Aquatic Resources (DAR) commented that in-stream work conducted during the dry season will limit impact of sedimentation on native species. Temporary diversion during construction to maintain stream flow and prevent siltation is critical since the connection to the ocean, as indicated by the presence of estuarine species, is significant to maintain a healthy near shore habitat. DAR recommended stationing an aquatic biologist during the in-stream construction phase to insure no net loss of habitat and undue mortality to native species. DAR also recommended a post-construction survey to measure whether the proposed mitigation was effective and removal of stream debris effectively created habitat appropriate for native species along with a decline of alien fish.

State Parks, Land Division, and Forestry and Wildlife had no objections to the project. The U.S. Army Corps of Engineers, Department of Hawaiian Home Lands, University of Hawaii Environmental Center, and Engineering did not submit comments as of the date of preparation of this submittal.

RECOMMENDATION:

That the Commission approve a Stream Channel Alteration Permit for the State Department of Transportation's bridge replacement across Kaipapau Stream, Hauula, Oahu, TMKs: (1) 5-4-011:004-0001 and 0002, 5-4-011:021, 5-4-018:001, 002 and 003. The permit shall be subject to the Commission's standard conditions in Exhibit 5.

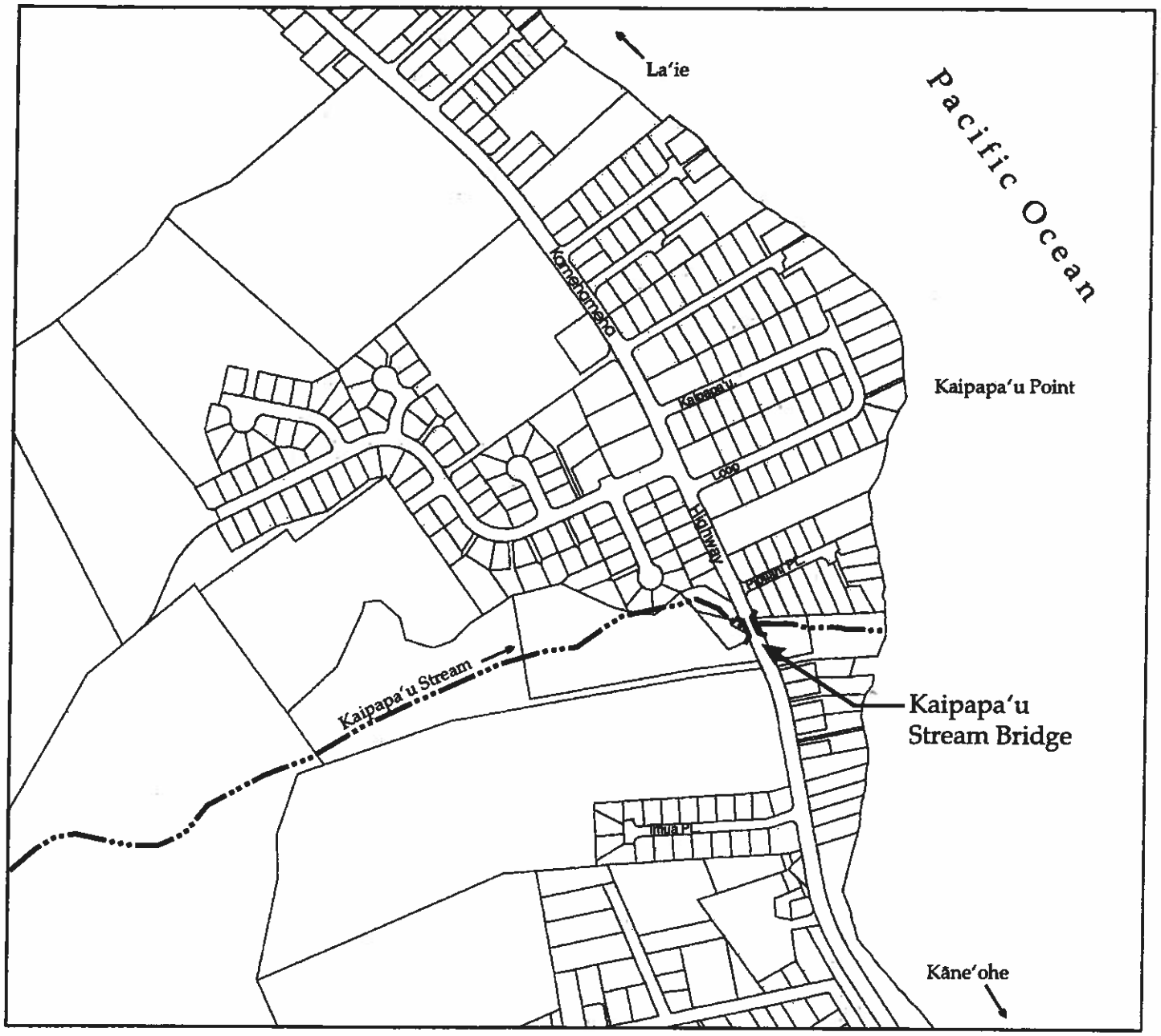
Respectfully submitted,

KEN C. KAWAHARA, P.E.
Deputy Director

Exhibits:
1. Location Map
2. Site Plan
3. Center Pier Elevation and Longitudinal Section
4. Photos of Bridge and Stream
5. Standard Stream Channel Alteration Permit Conditions

APPROVED FOR SUBMITTAL:

LAURA H. THIELEN
Chairperson



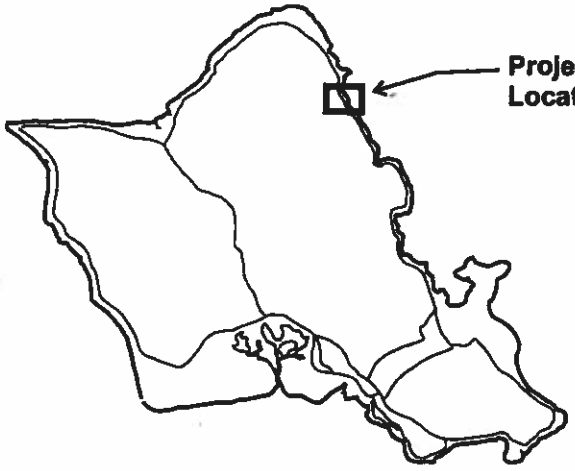


FIGURE 1
PROJECT LOCATION & VICINITY MAP
Kaipapa'u Stream Bridge Replacement
Ko'olauloa District, O'ahu, Hawai'i

0 500 1000 Feet

R. M. TOWILL CORPORATION
March 2007

EXHIBIT 1

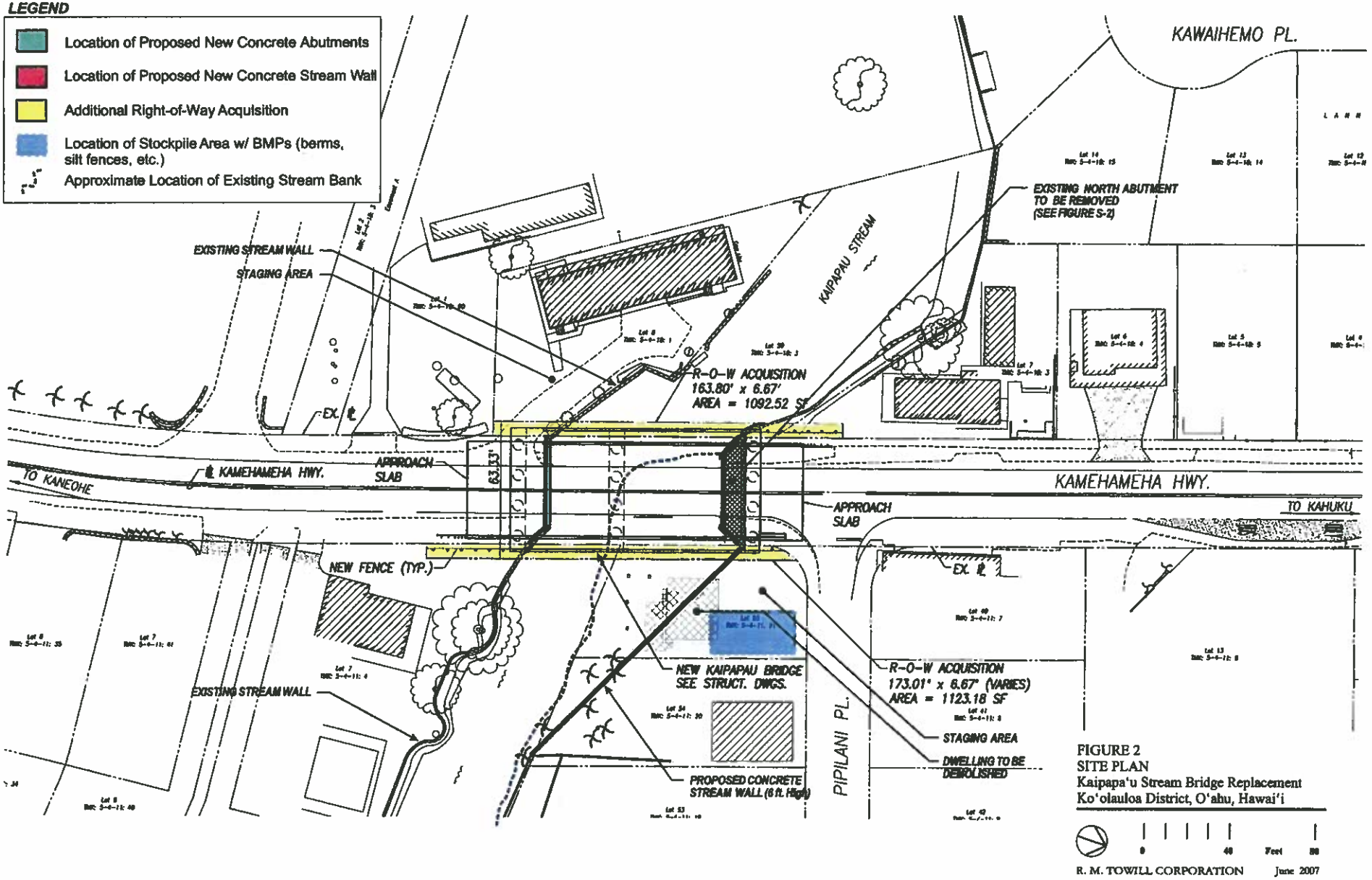


FIGURE 2
SITE PLAN
Kaipapa'u Stream Bridge Replacement
Ko'olauloa District, O'ahu, Hawai'i

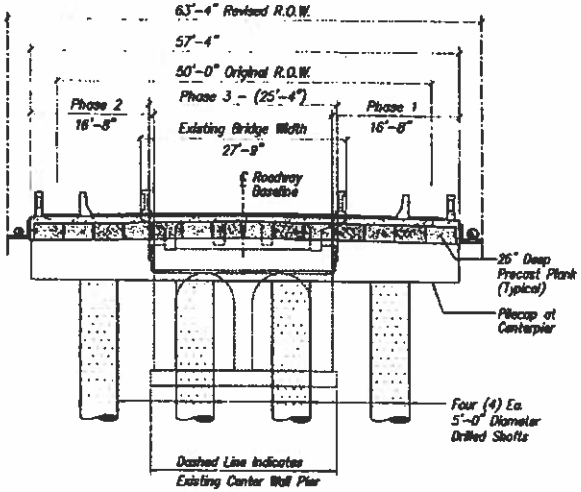
0 40 Feet 80

R. M. TOWILL CORPORATION June 2007

EXHIBIT 2

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HWY.	XXXXXXXXX	2009	CDS-2	6

Preferred Alternative - Alternative 4, Bridge Replacement and Widening with No Detour Road

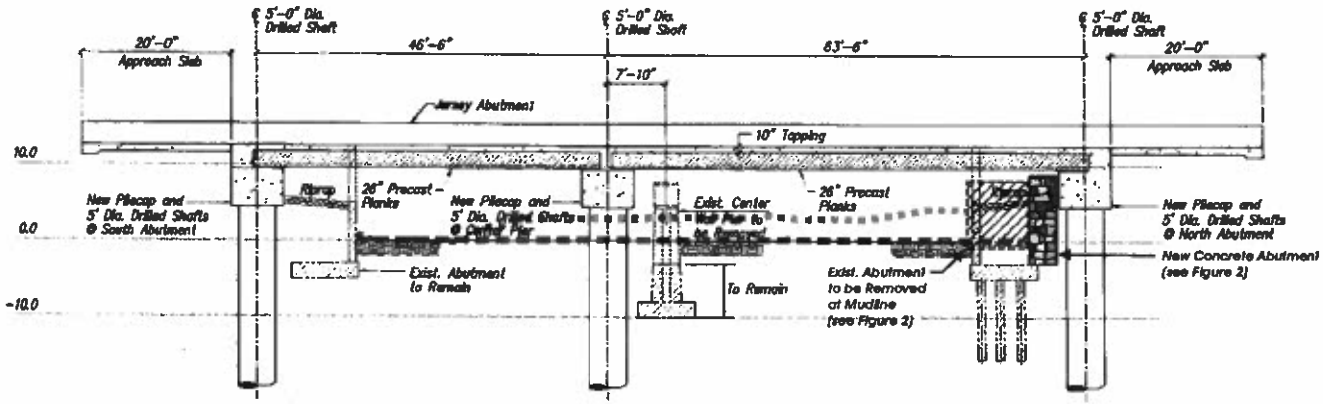


SECTION at CENTER PIER (1) CDS-1 | CDS-2

Scale: 1/8"= 1'-0"

Legend

- Existing North Abutment to be Removed at Mudline and Replaced with Concrete Abutment for Bank Stabilization (See Figure 2).
- Existing Streambed (approximate). See Photos 1 & 2.
- Proposed Streambed Elevation.



LONGITUDINAL SECTION (2) CDS-1 | CDS-2

Scale: 1/8"= 1'-0"

8 6 4 2 0 8 16

SCALE: 1/8"= 1'-0"

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

CENTER PIER ELEVATION and LONGITUDINAL SECTION

FIGURE S-2

SHEET No. CDS-2 OF 5 SHEETS

CONCEPTUAL DESIGN-REVISED SEPT. 30, 2008

XX

EXHIBIT 3

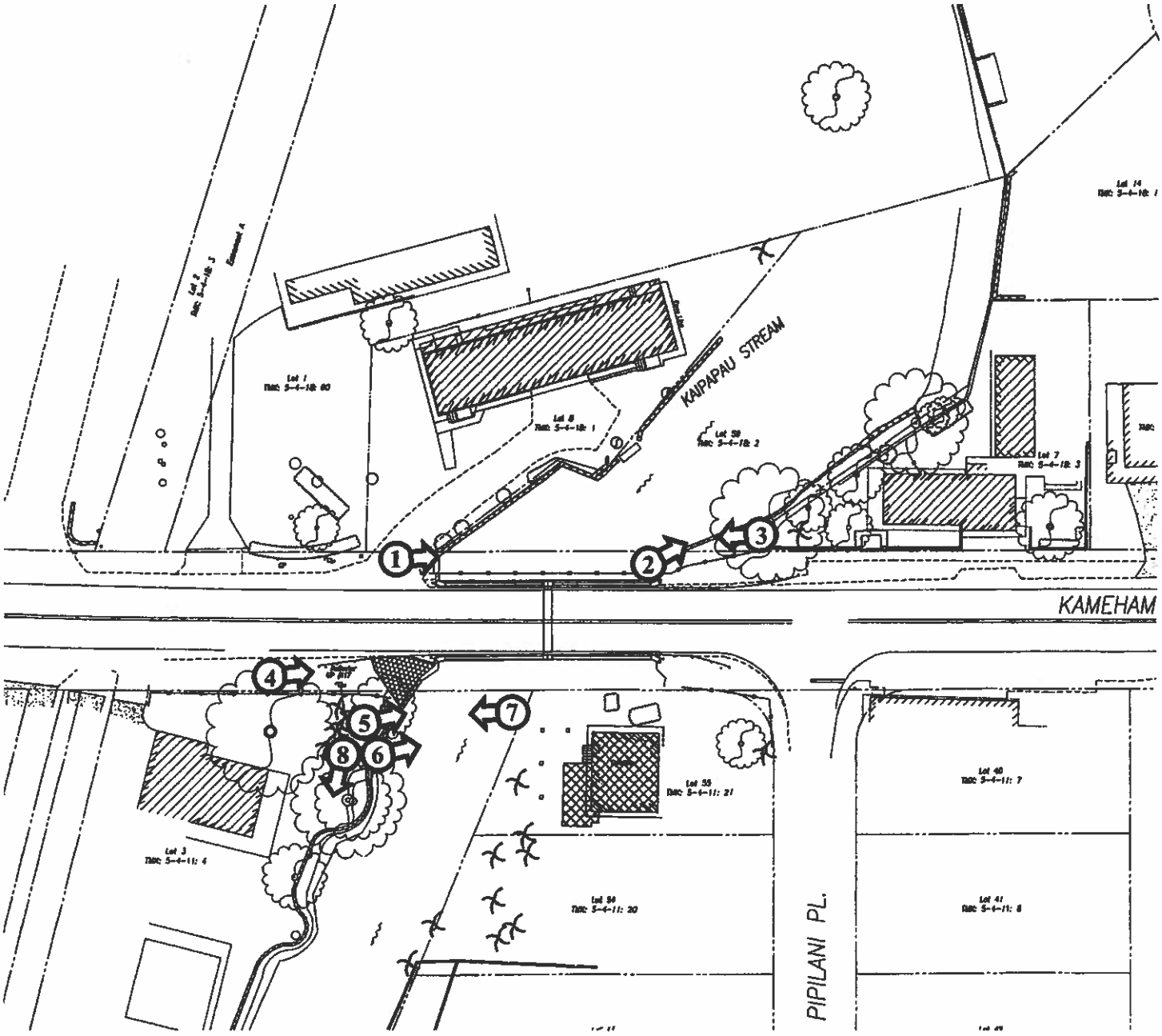


FIGURE 3
PHOTO KEY MAP
Kaipapa'u Stream Bridge Replacement
Ko'olauloa District, O'ahu, Hawai'i

NOT TO SCALE

R. M. TOWILL CORPORATION November 2008

EXHIBIT 4

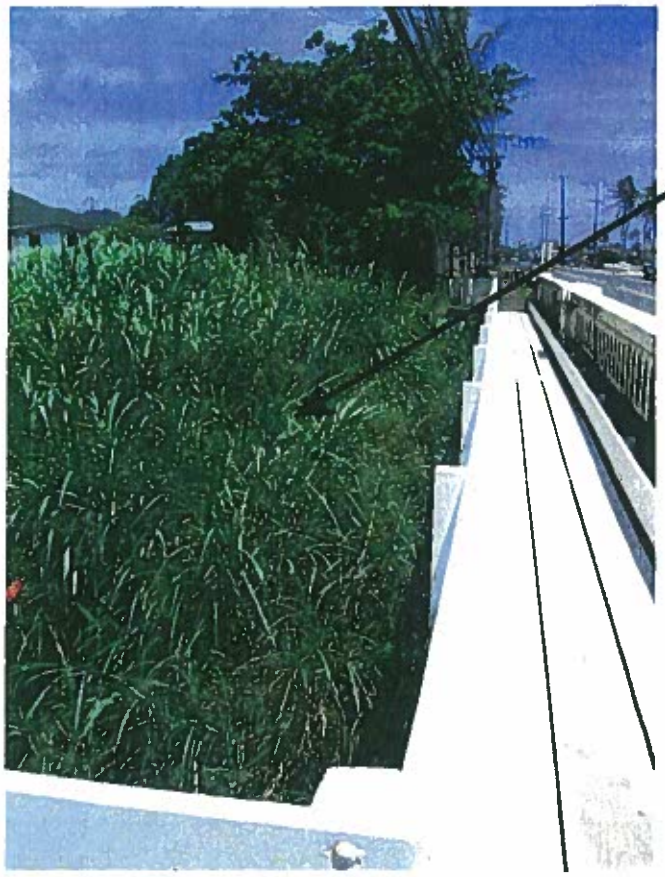


PHOTO 1: KANE'OHE/MAUKA SIDE FACING NORTH WEST

PHOTO 2: KAHUKU/MAUKA SIDE FACING WEST

PHOTOS 1 & 2
Kaipapa'u Stream Bridge Replacement
Ko'olauloa District, O'ahu, Hawai'i

R. M. TOWILL CORPORATION February 2006

PHOTO 4: KANE'OHE/MAKAI SIDE FACING NORTH WEST

PHOTO 5: KANE'OHE/MAKAI SIDE FACING NORTH WEST

PHOTOS 4 & 5
Kaipapa'u Stream Bridge Replacement
Ko'olauloa District, O'ahu, Hawai'i

PHOTO 8: BRIDGE FACING EAST

PHOTO 8
Kaipapa'u Stream Bridge Replacement
Ko'olauloa District, O'ahu, Hawai'i

R. M. TOWILL CORPORATION February 2006

STANDARD STREAM CHANNEL ALTERATION PERMIT CONDITIONS
(Revised 9/19/07)

1. The permit application and staff submittal approved by the Commission at its meeting on February 18, 2009, shall be incorporated herein by reference.

2. The applicant shall comply with all other applicable statutes, ordinances, and regulations of the Federal, State and county governments.

3. The applicant, his successors, assigns, officers, employees, contractors, agents, and representatives, shall indemnify, defend, and hold the State of Hawaii harmless from and against any claim or demand for loss, liability, or damage including claims for property damage, personal injury, or death arising out of any act or omission of the applicant or his successors, assigns, officers, employees, contractors, and agents under this permit or related to the granting of this permit.

4 The applicant shall notify the Commission, by letter, of the actual dates of project initiation and completion. The applicant shall submit a set of as-built plans and photos of the completed work to the Commission upon completion of this project. This permit may be revoked if work is not started within six (6) months after the date of approval or if work is suspended or abandoned for six (6) months, unless otherwise specified. The proposed work under this stream channel alteration permit shall be completed within two (2) years from the date of permit approval, unless otherwise specified. The permit may be extended by the Commission upon showing of good cause and good-faith performance. A request to extend the permit shall be submitted to the Commission no later than three (3) months prior to the date the permit expires. If the commencement or completion date is not met, the Commission may revoke the permit after giving the permittee notice of the proposed action and an opportunity to be heard.

5. Before proceeding with any work authorized by the Commission, the applicant shall submit one set of construction plans and specifications to determine consistency with the conditions of the permit and the declarations set forth in the permit application.

6. *The applicant shall develop site-specific, construction best management practices (BMPs) that are designed, implemented, operated, and maintained by the applicant and its contractor to properly isolate and confine construction activities and to contain and prevent any potential pollutant(s) discharges from adversely impacting state waters. BMPs shall control erosion and dust during construction and schedule construction activities during periods of low stream flow.*

7. *The applicant shall protect and preserve the natural character of the stream bank and stream bed to the greatest extent possible. The applicant shall plant or cover lands denuded of vegetation as quickly as possible to prevent erosion and use native plant species common to riparian environments to improve the habitat quality of the stream environment.*

8. In the event that subsurface cultural remains such as artifacts, burials or deposits of shells or charcoal are encountered during excavation work, the applicant shall stop work in the area of the find and contact the Department's Historic Preservation Division immediately. Work may commence only after written concurrence by the State Historic Preservation Division.

EXHIBIT 5